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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ROSE, HELENE ROBERTA	

ART UNIT	PAPER NUMBER
2163	

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/776,445	HASLAM ET AL.	
	Examiner	Art Unit	
	Helene Rose	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

1. Claims 1-37 have been presented for examination.

2. . Claims 1-37 have been rejected.

Claim Rejections – 35 USC 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 28-37 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 28 claims a computer system; however, the claims is directed towards software according to applicants specification on page 6, lines 4-5, wherein the cloning manager can be implemented as software. Software does not produce a tangible result. In order for the claimed subject matter to be considered statutory, the result must be useful, tangible, and concrete. Claims 29-37, which is dependent on the system of claim 28, fails to overcome these deficiencies of claim 28, in which they are rejected under the same grounds. To expedite a complete examination of the instant application, the following claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipating of applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections – 35 U.S.C – 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 1-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bendert et al (US Patent No. 5,761,678, Date of Patent: June 2, 1998) as applied to claims 1-4, 6, 10-11, 14-17, 18-20, 24-25, 27-30, 34-35, and 37 in view of Kaczmarski et al (US Patent No. 7,072,915, Filing Date of Patent: January 22, 2002) , as applied to claims 7-9, 21-23, and 31-33 and in further view of Bodilsen (US Patent No. 6,684,226, Filing Date of Patent: March 4, 2000) as applied to claims 12-13, 26 and 36.

Claims 1, 18 and 28:

Regarding Claims 1, 18 and 28, Bendert teaches a computer implemented method for in-place preservation of file system objects during a clone operation, the method comprising the steps of:

a cloning manager determining boundaries of a file system to be created by the clone operation (see abstract, wherein the system creates a clone storage area containing an identification of the base storage area but not the metadata, Bendert);

the cloning manager identifying at least one protected area within the boundaries reserved for the file system to be created by the clone operation (column 2, lines 6-12, wherein cloning is a process of making a copy of a group of files called a file-set at that time and column 4, lines 11-17, wherein a clone storage is used to preserve the base

storage area object metadata and data that existed at the time the clone storage area was created, even if the base area object metadata or data is updated after the clone is created, Bendert);

the cloning manager identifying at least one in place file system object at least partially within the boundaries to be preserved during the clone operation (see abstract, wherein the system copies the portion, copies the metadata into the clone storage area for the one object, makes the update to the object copy and changes the metadata in the base storage area to identify the portion copy instead of the original portion, Bendert).

the cloning manager storing, in a location that will not be affected by the clone operation, metadata concerning each in-place file system object at least partially within the cloning manager boundaries to be preserved during the clone operation (column 2, lines 6-16, Bendert);

the cloning manager ensuring that each in-place file system object at least partially within the boundaries to be preserved during the clone operation is not located in a protected area (column 2, lines 51-58, Bendert); and

the cloning manager creating the file system during the clone operation only in locations within the boundaries in which no in-place file system object to be preserved is located (column 3, lines 63-67, Bendert).

Claims 2, 19 and 29:

Regarding Claims 2, 19 and 29, Bendert teaches wherein the cloning manager determining the boundaries of a file system to be created by the clone operation comprises:

the cloning manager analyzing data concerning the clone operation to determine at least one attribute concerning the file system to be

created from a group (column 6, lines 39-60, Bendert) consisting of:

file system type of the file system to be attributes a created (column 6, lines 37-55, Bendert);

location of volume boundaries of the file system to be created (column 4, lines 53-54, Bendert);

storage geometry concerning the file system to be created (column 4, lines 59-60, Bendert); and

number of total sectors to be used by the file system to be created (column 5, lines 55-59, Bendert).

Claims 3, 20 and 30:

Regarding Claims 3, 20 and 30, Bendert teaches wherein the cloning manager identifying at least one protected area within the boundaries reserved for the file system to be created by the clone operation comprises the cloning manager

performing at least one step from a group of steps consisting of:

identifying at least one protected area required by the file system to be created by the clone operation (see abstract, wherein the metadata for each object identifies data within each object, wherein the system receives a request to clone a base storage area containing an identification of the base storage area but not the metadata, Bendert); and

identifying at least one protected area not required by but optimally reserved for the file system to be created by the clone operation (column 4, lines 33-41, Bendert).

Claim 4:

Regarding Claim 4, Bendert teaches wherein the cloning manager identifying at least one in-place file system object with the boundaries to be preserved during the clone operation (column 9, lines 14-15, Bendert) comprises:

the cloning manager compiling a list of in-place file system objects to be preserved during the clone operation (column 9, lines 28-31, Bendert); and

the cloning manager eliminating any in-place file system objects which will not be affected by the clone operation from the list (column 9, lines 32-45, Bendert).

Claim 5:

Regarding Claim 5, Bendert teaches wherein the cloning manager eliminating any in-place file system objects which will not be affected by the clone operation from the list further comprises:

the cloning manager identifying at least one file system object to be preserved which is not located on the physical medium on which the file system is to be created by the clone operation (column 5, lines 52-53, Bendert); and

the cloning manager eliminating each identified file system object which is not located on the physical medium from the list (column 9, lines 40-45, Bendert).

Claim 6:

Regarding Claim 6, Bendert teaches wherein the cloning manager eliminating any in-place file system objects which will not be affected by the clone operation from the list further comprises:

the cloning manager identifying at least one file system object to be preserved which is located outside of the boundaries of the file system to be created by the clone

operation (Figure 2a, all features, further defined in column 5, lines 49-54 and column 4, lines 11-21 Bendert); and

the cloning manager eliminating each identified file system object which is located outside of the boundaries from the list (column 8, lines 30-38, Bendert).

Claims 10, 24 and 34:

Regarding Claims 10, 24 and 34, Bendert teaches wherein the cloning manager creating the system during the clone operation only in locations within the boundaries in which no in-place file system object to be preserved is located comprises:

before allocating at least one sector for the creation of the file system, the cloning manager checking the stored metadata concerning the in-place file system objects to determine if at least one file system object to be preserved is located at that location (column 6, lines 45-55, Bendert); and

responsive to determining that at least one file system object to be preserved located at that location, allocating the at least one sector to the file system at an available non-conflicting location (column 6, lines 55-60, Bendert).

Claims 11, 25 and 35:

Regarding Claims 11 and 25, Bendert teaches wherein the cloning manager identifying at least one place file system object at least partially within the boundaries to be preserved during the clone operation further comprises the cloning manager identifying at least one in-place file system object to be both preserved during the clone operation and incorporated into the file system created by the clone operation (refer to claim 1, wherein this limitation is substantially the same/similar as claim 1); and

wherein the cloning manager storing, in a location that will not be affected by the clone operation, metadata concerning each in-place file system object further comprises the cloning manager storing metadata concerning each identified file system object to be both preserved during the clone operation and incorporated into the file system created by the clone operation, the metadata comprising at least one metadatum from a group of metadata (Figure 2d, all features, Bendert) consisting of:

an indication that the file system object is to be incorporated in the file system to be created by the clone operation (Figure 2d, diagram 102, Bendert);

recovery path of the file system object within the file system to be created by the clone operation (column 4, lines 19-24, wherein the file is backed up, Bendert); and

recovery partition of the file system object within the file system to be created by the clone operation (see abstract, Bendert).

Claims 14, 27 and 37:

Regarding Claims 14, 27 and 37, Bendert teaches the cloning manager performing the following additional steps after the clone operation:

using appropriate stored metadata create a directory entry in the created file system for each identified file system object to be incorporated into the created file system (column 4, lines 57-60, Bendert); and

updating metadata concerning the created file system to map the content location of each identified file system object into the created file system (column , lines 8-25, Bendert).

Claim 15:

Regarding Claim 15, Bendert teaches the cloning manager determining whether target storage medium is of sufficient size to store each identified in-place file system object to be preserved during the clone operation and the file system to be created by the clone operation (column 1, lines 6-16, Bendert);

responsive to the result of the determining step, the cloning manager performing a step from a group of steps consisting of :

responsive to determining that the target storage medium is of sufficient size, proceeding with the clone operation (column 9, lines 10-13, Bendert); and

responsive to determining that the target storage medium is not of sufficient size (column 4, line 60, Bendert),

classifying the result of the determination as an error condition (Refer to claim 13, wherein this limitation is substantially the same or similar to claim 13).

Claim 16:

Regarding Claim 16, Bendert teaches the cloning manager creating at least two file systems during the clone operation (Figure 2b, all features, Bendert).

Claim 17:

Regarding Claim 17, Bendert teaches the cloning manager creating at least one file system during the clone operation on at least two storage media (column 2, lines 10-16 and column 2, lines 51-54 and 63-67, Bendert).

Claims 7, 21 and 31:

Regarding Claims 7, 21 and 31, Bendert discloses wherein the cloning manager storing metadata concerning each in-place file system object to be preserved during the clone comprises:

the cloning manager storing, operation further for each in place system object to be preserved during the clone operation (Refer to claim 1, wherein this limitation has already been addressed, Bendert), at least one metadata concerning the file system object from a group of metadata consisting of: a path of the file system object; at least one attribute concerning the file system object; and a logical location of the file system object; a physical storage location of content of the file system object.

Bendert disclose all the limitations above. However, Bendert does not discloses wherein at least one attribute concerning the file system object; and a logical location of the file system object);a physical storage location of content of the file system object. However, Kaczmarski does disclose wherein at least one attribute concerning the file system object (column 4, lines 43-48, Kaczmarski); and a logical location of the file system object (Figure 1, and Figure 2A, all features, wherein its further defined in columns 1-2, lines 65-67 and lines 6-9, Kaczmarski); a physical storage location of content of the file system object (column 1, lines 59-61 and column 2, lines 12-20, Kaczmarski). It would have been obvious to one of the ordinary skill in the art at the time of the invention to incorporate physical and logical storage location disclosed by Kaczmarski within Bendert system, to effectively create a duplicate source data that is consistent at a specific time.

Claim 8, 22 and 32:

Regarding Claim 8, 22 and 32, Bendert in view of Kaczmarski teaches wherein the cloning manager storing metadata concerning each in-place file system object to be preserved during the clone operation further comprises:

the cloning manager storing the metadata in a location that not be affected by the clone operation in a format from a group formats consisting of:

at least two files, each file containing the metadata so as to support fault tolerance (column 1, lines 44-54, Bendert);

at least one record in a database supporting fault tolerance (column 9, lines 56-60, Bendert);

a single file (column 1, lines 61-64, Bendert); and

structured data in random access memory (column 5, lines 39-40, Kaczmarski).

Claims 9, 23 and 33:

Regarding Claims 9, 23 and 33, Bendert in view of Kaczmarski teaches wherein the cloning manager ensuring that each in-place file system object at least partially within the boundaries to be preserved during the clone operation is not located a protected area comprises):

the cloning manager comparing a location of each file system object at least partially within the boundaries to be preserved during the clone operation to locations of identified protected areas reserved for the file system to be created by the clone operation (see abstract, Bendert); and

responsive to the cloning manager determining that a location of a file system object conflicts with a location of a protected area, the cloning manager performing a step from a group of steps consisting of:

moving the conflicting file system object to an available non-conflicting location, and updating metadata concerning the file system object accordingly (column 2, lines 56-67, Kaczmarski); and

classifying the result of the determination as an error condition (column 9, lines 56-58, Bendert).

Claim 12:

Regarding Claim 12, Bendert in view of Kaczmarski discloses all the limitations above. However, Bendert in view of Kaczmarski do not disclose wherein the cloning manager determining that at least one identified in-place file system object to be incorporated into the file system to be created by the clone operation not compatible with the file system to be created by the clone operation; and responsive to the determination, the cloning manager performing a step from a group of steps consisting of:

modifying at least one identified file system object to be compatible with the file system to be created by the clone operation; and classifying the identification as an error condition (see abstract, Bodilsen). On the other hand, Bodilsen discloses the cloning manager determining that at least one identified in-place file system object to be incorporated into the file system to be created by the clone operation not compatible with the file system to be created by the clone operation (Figure 6, 48-55, Bodilsen); and

responsive to the determination, the cloning manager performing a step from a group of steps consisting of:

modifying at least one identified file system object to be compatible with the file system to be created by the clone operation (column 2, lines 38-41, Bodilsen); and classifying the identification as an error condition (see abstract, Bodilsen). It would have been obvious to one of the ordinary skill in the art at the time of the invention to incorporate modification and duplication of copies by Bodilsen within Bendert and Kaczmarski system, to provide different versions of data that will be accessible to a user.

Claims 13, 26 and 36:

Regarding Claims 13, 26 and 36, Bendert in view of Kaczmarski and further in view of Bodilsen teaches for each identified in-place file system object to be incorporated into the system, the cloning manager determining whether its content is located within to be a data area whether its location is properly aligned according to storage geometry of the file system (Figure 9, all features, Bodilsen); and

responsive to determining that the location of at least one in-place file system object to be incorporated into the file system is not compatible with the file system, the cloning manager performing a step from a group of steps consisting of:

moving the in-place file system object such that its new location is compatible with the file system and updating the associated metadata accordingly (see abstract, Bodilsen); and

classifying the result of the determination as an error condition (Refer to claim 12, wherein this limitation has already been addressed, Bendert).

Prior Art of Record

1. Sliger et al. (US Patent No. 6,216,175) discloses comparing an old file with a new file to generate a set of patching instructions, and then compressing the patching instructions to generate a compact patch file for transmission to a user, a patch file is generated in a single operation.

2. Khoyi et al (US Patent No. 5,634,124) discloses an object based data processing system including an extensible set of object types and a corresponding set of object managers wherein each object manager is a program for operating with the data stored in a corresponding type of object.

3. Menage (US Patent No. 6,618,736) discloses file systems are created and archived by provided a set of shared storage units and one or more templates, each template including a set of private storage units and a corresponding usage map.

4. Chen et al. (US Patent No. 6,594,743) discloses a disk-cloning method and system is provided for cloning computer data from a source disk to a target disk.

5. Bendert et al. (US Patent No. 5,761,678) discloses a system and method clones of an object group.

6. Kaczmarski et al. (US Patent No. 7072,915) discloses a copy and method to provide a duplicate copy of source data wherein the duplicate copy is consistent with the source data as of a designated time.

7. Bodilsen et al (US Patent No. 6,684,226) discloses a transaction based versioned file system.

Point of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Rose whose telephone number is (571) 272-0749. The examiner can normally be reached on 8:00am - 4:30pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Helene Rose
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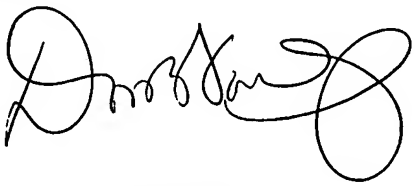
September 18, 2006



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